Environmental Investigation and Cleanup at the FORMER STAUFFER CHEMICAL COMPANY SITE

HENDERSON, NEVADA

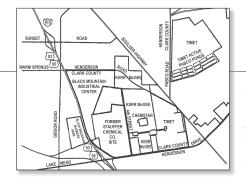
Pioneer Americas LLC (Pioneer) owns and operates a manufacturing plant near the City of Henderson, Clark County, Nevada. Pioneer purchased the plant and related property (the facility) in 1988. The facility is in the western portion of a larger industrial complex (BMI Industrial Complex). Pioneer, Stauffer Management Company LLC (SMC), and Syngenta Crop Protection, Inc. (Syngenta) are working in cooperation with the Nevada Division of Environmental Protection (NDEP) on continuing environmental investigation and cleanup activities related to historical operations at the facility. This fact



sheet is prepared on behalf of Pioneer, SMC, and Syngenta and is intended to keep community members informed about the status of the environmental investigation and cleanup. Other companies within the BMI Industrial Complex are also performing environmental work. These companies include Kerr-McGee Chemical Company, Titanium Metals Corporation, the BMI Companies, and Montrose Chemical Corporation of California (Montrose). All of these companies have, or are in the process of, developing separate Fact Sheets related to their environmental work.

HISTORY

In 1941, approximately 5000 acres of empty desert in the southwestern quadrant of the Las Vegas Valley was deeded by the United States for use as the site of what was to become the world's largest magnesium plant, a plant constructed for the government that would play a critical role in World War II. The location was selected in part based on its proximity to magnesite ore and an adequate power supply (the recently completed Hoover Dam). Since that time, parts of the original site have remained industrialized (BMI Industrial Complex), parts of the site have been abandoned, parts of the site have been converted to other uses, and parts of the site have remained as virgin desert.



The western portion of the magnesium plant included a chlorine-caustic operation which was used in part for the government's production of magnesium. In 1945 Stauffer Chemical Company leased the chlorine-caustic portion of the plant from the government; Stauffer Chemical Company purchased this portion of what is now the BMI Industrial Complex in 1952. The facility was ultimately sold to Pioneer in 1988. During Stauffer Chemical Company's occupancy, the facility

manufactured chlorine and caustic and, later, agricultural chemicals. Additionally, portions of the facility were leased to Montrose for chemical production.

Today Pioneer operates the facility for the continued production of chlorine and caustic, as well as hydrochloric acid and bleach, which are related products; all other chemical production ceased prior to 1988. Current neighbors to Pioneer within the BMI Industrial Complex include Kerr-McGee Chemical Company, Titanium Metals Corporation, Chemstar Lime Co., and the BMI Companies, among others.

In 1991, Pioneer and SMC entered into a Consent Agreement with the NDEP requiring Pioneer and SMC to jointly conduct a Phase I **Environmental Conditions Assessment** (ECA) of the facility. The purpose of the ECA was to identify areas of potential environmental concern. Pioneer and SMC submitted their ECA report to NDEP in 1994. Pioneer and SMC entered into another Consent Agreement with NDEP in 1996 requiring them to jointly conduct a Phase II Environmental Conditions Investigation (ECI) of areas of potential environmental concern identified in the ECA. Pioneer and SMC submitted three reports to NDEP in response to their Phase II ECI obligations: 1) Responses to Letter of Understanding Information Requests (8/97); 2) Eight-Month Information Report on field investigations at the former lindane and agricultural chemical plants located within the facility (11/97); and 3) a report on the effectiveness of the groundwater treatment facility that is designed to remove volatile organic chemicals from groundwater (8/98). The groundwater treatment facility was constructed by Stauffer Chemical Company and Montrose in 1983 and continues to pump and treat impacted groundwater. NDEP provided comments and further information requests regarding each of the reports, to which Pioneer and SMC have responded.

One outstanding NDEP information request is for preparation of a comprehensive site conceptual model. A draft site conceptual model report was submitted in

1999. NDEP has provided a series of comments on that draft report since that time. To respond to NDEP's comments, additional environmental investigations will be required. Pioneer, SMC, and Syngenta are currently working with NDEP to determine a list of chemicals to test for in future investigations at the facility. A work plan for additional soil and groundwater investigations will be completed by Pioneer, SMC, and Syngenta and submitted to NDEP once the list of chemicals is finalized. The information generated by the additional investigations will be incorporated into a revised site conceptual model report.

As a result of the Eight-Month Information Report on field investigations at the former lindane and agricultural chemical plants, Pioneer and SMC submitted Remedial Alternatives Studies and a work plan for additional investigations for these two areas. The results of that additional characterization work were submitted to NDEP in 2002. NDEP requested further investigation work, but meanwhile, Pioneer and SMC implemented interim response actions, including the asphalt capping of much of the former lindane and agricultural chemical plant areas. This work was completed in 2003. Based upon the NDEP comments on the report Pioneer and SMC submitted after completing the additional characterization work, further investigation will be completed in these areas. The information generated will be incorporated into the revised site conceptual model.

Finally, over the last year Pioneer, SMC and Montrose have been conducting an updated evaluation of the efficacy of the groundwater treatment system first installed down gradient of the facility in 1983. As a result of that extensive evaluation, a series of improvements have been made to the groundwater treatment system's operating efficiencies. Additionally, a carbon polishing system will be added to the treatment portion of the facility. It is anticipated that this additional treatment system will be installed in 2005.

FUTURE WORK

Pioneer, SMC, and Syngenta will continue to perform environmental investigations as described above in cooperation with NDEP. Additional environmental cleanup work will be conducted as appropriate based on the results of the investigations and completion of the revised site conceptual model. The groundwater treatment system will continue to operate and the companies will continue to monitor its effectiveness.

Parallel to work being conducted at the facility, efforts are underway to coordinate the compilation and review of available environmental information that has been collected with respect to areas between the facility and the Las Vegas Wash. Pioneer, SMC, and Syngenta will participate in the information compilation and review and in future activity north of the facility as appropriate.

INFORMATION AND COMMUNITY INVOLVEMENT

NDEP oversees all aspects of the environmental work at the facility. Additional information can be obtained from Jennifer Carr (775-687-9373) or Jeff Johnson (775-687-9377) at the State. The companies welcome community input in this project and recognize the need to respond to community concerns. Previous reports related to the environmental work at the facility can be found at the City of Henderson Public Library. If you have any questions, please feel free to contact Gary Sulik, Plant Manager at the Pioneer facility in Henderson, at 702-564-0306.